

COMPLETE SET OF CLAIMS

8. (currently amended) A process for polymerizing ethylenically unsaturated monomers in the gaseous phase , wherein the process is carried out in a gas-phase fluidized-bed reactor comprising a reactor space (1) in the form of a vertical tube, a calming zone (2) adjoining the upper part of the reactor space, a circulated gas line (3), a circulated gas compressor (4), a cooling apparatus (5), a gas distributor plate (6) which forms the lower boundary of the reactor space and, optionally, a flow divider (7), wherein the gas distributor plate (6) has a plurality of gas flow orifices (8) whose outlet sides are widened conically, said outlet sides being wider than the inlet sides.
9. (previously presented) The process of claim 8, wherein the polymerization is carried out in the presence of condensed monomers.
10. (previously presented) The process of claim 8 wherein ethylene is homopolymerized or copolymerized with C3-C8- α -olefins at from 30 to 125°C and a pressure of 10 to 90 bars.
11. (previously presented) The process of claim 10 wherein ethylene is copolymerized with hexene-1.

12. (previously presented) The process of claim 8 wherein the conical widening of the gas flow orifices has an angle α of from 20 to 40°.
13. (previously presented) The process of claim 8 wherein the planar part of the upper side of the gas distributor plate apart from said orifices is less than 10% of the total area of the gas distributor plate.
14. (previously presented) The process of claim 8 wherein the gas flow orifices of the gas distributor plate are configured such that the pressure drop on flowing through the gas distributor plate is at least 30% of the pressure drop experienced by the gas mixture on flowing through the fluidized bed.
15. (previously presented) The process of claim 8 wherein the diameter of the gas flow orifices is from 2 to 5 mm at their narrowest point.
16. (previously presented) The process of claim 8, which includes said optional flow divider (7).
17. (previously presented) The process of claim 15, wherein the planar part of the upper side of the gas distributor plate apart from said orifices is less than 10% of the total area of the gas distributor plate.

18. (previously presented) The process of claim 17, wherein the gas flow orifices of the gas distributor plate are configured such that the pressure drop on flowing through the gas distributor plate is at least 30% of the pressure drop experienced by the gas mixture on flowing through the fluidized bed.
19. (previously presented) The process of claim 18, which includes said optional flow divider (7).